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THE  
NORTH RIVER BRIDGE  
AT  
New York City.



(BOSTON)  
(W. H. B. 1864)









# The North River Bridge.

MARCH 15, 1895.

NEW YORK, the foremost American city, is so isolated by the Hudson or North River from the great trunk lines of railroad extending to the South and West that entrance at present to it therefrom is attended with delays, more or less discomfort, and at times with danger.

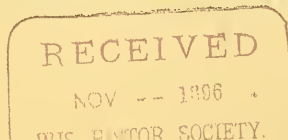
The following railroads now have termini on the North River in New Jersey opposite New York:

1. The Pennsylvania R. R.
2. The Central R. R. of New Jersey.
3. The Baltimore and Ohio R. R.
4. The Philadelphia and Reading R. R.
5. The Lehigh Valley R. R.
6. The New York, Susquehanna & Western R. R.
7. The New York, Lake Erie & Western R. R.
8. The Northern & New Jersey R. R.
9. The New York & Greenwood Lake R. R.
10. The New Jersey and New York R. R.
11. The Delaware, Lackawanna & Western R. R.
12. The Morris and Essex R. R.
13. The West Shore R. R.
14. The New York, Ontario and Western R. R.
15. The Consolidated Electric Traction Railroads of New Jersey.
16. The New Jersey Electric Railway Company.

The ferry landings for these railroads in New York are mostly at the foot of narrow, filthy streets, in some of the worst conditioned parts of the city, which, during the day, are frequently blockaded with an almost impenetrable mass of teams and trucks, through which the landed passengers are obliged to make their way.

To provide a necessary, convenient and modern terminal for the said railroads in New York City is the object of

**The North River Bridge Company.**





# THE NORTH RIVER BRIDGE.

AT NEW YORK CITY.

WITH A WEIGHT SPAN OF 1000 FEET OVER THE WATER. Total Length 1,450 feet including approach piers.

It is the longest suspension bridge in the world.  
 The main span is 1,000 feet long.  
 The total length is 1,450 feet.

Designed by J. B. Roebling.

Completed in 1883.



The railway bridge will cross the North River at 23d Street, and will land the passengers within one block of Madison Square, in the very heart of New York City, and in its best built-up quarter, in the centre of the shopping and retail trade, and of the hotel and theatre section, and readily accessible from all directions by street and elevated railroads.

This Company was chartered by act of Congress, approved July 11, 1890, with complete powers. The charter is a most liberal one, and permits the construction of connections with all the railroads on both sides of the river. The plans of the bridge and its location have been approved by the Secretary of War, and its construction is, under the charter, *a national work*, subject to direct supervision by the national government. The bridge will have a capacity of 14 tracks, of which only 8 tracks will be installed at first; namely, 6 tracks for locomotive trains and 2 tracks for electrical cars. It will, with the modern facilities, be built under contracts in 5 years, since all the preliminary work has already been prepared at great expense. Two years are required for the foundations and 3 years for the towers and cables previously manufactured in the bridge shops ready for erection. Condemnation of property for right of way has been commenced in New Jersey, and the charter of the Company has been adjudicated by the Supreme Court of the United States. The Company is in harmony with all the existing commercial interests, and with all the railroads in New Jersey and New York, all of which, under the law, will have equal rights and privileges in the use of the bridge.

The location of bridge is from Tenth Avenue, at 23d Street, in a straight line above the houses and at right angle to and over the North River to the anchorage in Hoboken, N. J., at 12th and Bloomfield Streets. *It is the shortest, most direct and cheapest bridge location* from the New Jersey side into New York. Entire length of bridge and approaches will be 3 miles.

The approach in New York City will be elevated above the streets, so as to connect on a level with the elevated railroad on Sixth Avenue at 26th Street.

Connections in New York will also be made with the New York Central and Hudson River R. R. Co. at 30th Street and Ninth Avenue, and through it with the entire railroad system of New England.

Connections in New Jersey will be made with all the railroad

systems, having together thirty-two lines and 17,000 miles of track, spreading out in all directions, and connecting with the entire railroad system of the American continent. The bridge will also connect with the large network of rapid transit electrical roads in Hoboken and Jersey City, and in the suburban towns adjacent thereto, and containing together a growing suburban population now of nearly 2,000,000, all tributary to the bridge.

Estimates of cost have been made at contractors' prices, on an ample and liberal basis, to cover interest during construction, all possible contingent expenses, and the costly real estate which it will be necessary to acquire and improve. At no time before have the prices for building materials of every description been so low as they are now.

## CONSTRUCTION.

Cost of Bridge (7340 ft. long) for 8 tracks,	\$21,000,000
Cost of Approaches, Terminals and Real Estate for same in New York and New Jersey,	8,000,000
Interest Account and Contingent Expenses during construction,	7,000,000
Total Cost of Construction,	<hr/> \$36,000,000

## REVENUE.

The exceptionally favorable location of the bridge will command more traffic and more revenue from all sources than is possible on any other route from New Jersey into New York.

1. Toll from local (electrical traction) and railroad passengers, based on low rates, from 5 cents up, averaging 6 cents for 40,000,000 passengers (only 40 per cent. assumed of probably 100,000,000 crossing the river in 1900),  
Net, \$2,400,000
2. Toll from express, perishable and high class freights and food products, and from other low class and through freight to and from New England, 400,000 cars at average \$4,  
Net, 1,600,000



3. Telephone and Telegraph Wire Rentals,	
Net,	\$ 30,000
4. Rentals from Real Estate (below the	
tracks) acquired and necessary for right of way,	
and improved for renting purposes, 3 per cent.	
on \$3,000,000,	Net, 90,000
Total Net Revenue,	\$4,120,000
Deduct from the above Net Revenue (railroads	
using their own equipment and crews, and pay-	
ing their own operating expenses) for mainte-	
nance, taxes, and other expenses, liberally es-	
timated,	\$20,000
Available for the fixed charges of sinking fund and	
interest on bonds in the second year of opera-	
tion,	\$3,300,000

The fixed charges for interest on bonds and sinking fund for redemption will not exceed 2,100,000 dollars on the first cost, leaving the large margin of at least 1,200,000 dollars to begin with. There is no room for doubt, that the revenue will very rapidly increase to much larger figures.

The in and outgoing tracks will be connected by a loop in New York, to permit of the quick and inexpensive handling and reversal of trains and cars. A very large passenger and through business can be done that way without occupying too much costly space in New York in the beginning. The trackroom and yards for switching, cleaning of cars, and for other terminal purposes will be provided in the meadows on the New Jersey side, in proximity to the existing railroad yards, and where the land is much cheaper than in New York.

Later, as the increasing business over the bridge will require, the terminal facilities in New York will be enlarged for freight stations, ware and storage houses, and for offices and other purposes. For such enlargement and improvement of property, as shall then appear profitable and necessary, the Company will have the means for raising the funds independently of the first cost of the bridge and approaches. Such property and real estate will earn its own fixed charges from rentals, independent of the tolls over the bridge. The growth of business will be cer-

tain to continue for many years, similarly to the growth of all transportation business in New York, and will be very large, as may be judged from the experience with the Brooklyn Bridge, the Grand Central Railroad Station, the elevated railroads, the Broadway cable line; and, in fact, with every transportation interest in New York.

The number of ferry passengers carried across the North River in the year 1890 is as follows:

PASSENGERS.	
1. Liberty St. Ferry, connecting with the Jersey Central R. R., Phila. & Reading R. R., and other railroads . . . . .	11,200,000
2. Cortlandt Street and Desbrosses Street Ferries, connecting with the Penna. R. R., Lehigh Valley, Susquehanna and Western, and other railroads . . . . .	19,021,900
3. Chambers Street and West 23d Street Ferries, Connecting with the Erie R. R., the Northern R. R., of New Jersey, and other railroads . . . . .	10,679,500
4. Barclay Street and Christopher Street Ferries, connecting with Hoboken, and with the D. L. & W. R. R., Morris and Essex, and other railroads . . . . .	24,640,000
5. Franklin Street and West 42d Street Ferries, connecting with Weehawken, the West Shore R. R., Ontario and Western, and other railroads . . . . .	3,908,000
6. The West 14th Street Ferry, connecting with Hoboken . . . . .	2,810,000
Total in 1890 . . . . .	72,259,400

The number of ferry passengers over the North River in 1886 was 58,894,300; it had grown to 72,259,400 in 1890, and now exceeds 85,000,000. At the same rate, the number will certainly reach 100,000,000 in 1900, the year for the opening of the bridge. Only 40 per cent. of this number are, however, conservatively assumed as using the bridge, although it is more than probable that the percentage will be much larger, because of the *exceptionally favorable location* of the bridge.

For the probable growth of the bridge traffic, the Brooklyn

Bridge furnishes an illustration. It carried in 1884 (one year after completion) 8,528,000 passengers. In 1890, it carried 40,898,400; and at present, the annual number exceeds 43,000,000 paying passengers, a growth of over 500 per cent. in ten years, from merely local traffic, because no railroads are using that bridge. It has no terminals to speak of, showing that a very large local passenger business is possible without large terminals. Another instance of rapid growth, stimulated by low fares, is furnished by the elevated railroads, which carried 60,830,000 passengers in 1880; and at present, with the same length of road, and without special terminals, carry over 200,000,000 passengers, an increase of 340 per cent. in 15 years. The constant growth of passenger traffic is also exemplified by the experience of the Broadway cable road, which in 1893 carried 83,196,000 passengers, and 107,036,000 in 1894; and in the Third Avenue cable road, which carried 33,150,000 passengers in 1893, and 35,000,000 in 1894.

The Grand Central Station at 42d Street, being the passenger terminus of only two steam railroads with four tracks, has about 12,400,000 passengers per year, averaging 340 daily passenger trains.

The Broad Street Station in Philadelphia of the Pennsylvania R. R., which is only one of the large railroad systems that will use the North River Bridge, accommodates 20,000,000 passengers per year with about 500 daily trains.

The North River Bridge is a greater necessity than were the Brooklyn Bridge, the elevated railroads, or cable lines at the time of their completion. It is therefore evident, that the local passenger business alone over the North River Bridge, stimulated by low fares, will reach colossal proportions. But, favorably located as this bridge is, it will also be the principal avenue into New York for the heavy high class freight traffic as well as passengers from all the railroad systems, now terminating in New Jersey opposite New York.

The *daily number* of passenger trains from and to New York on these railroads averages at present 1200, and the number of freight cars about 4800. It is conservatively estimated, that in 1900, on completion of the bridge, 500 passenger trains, with 50,000 railroad passengers, 1100 freight cars, and 60,000 local electric traction passengers will cross the bridge *daily* to commence with, the revenue from which, at very low rates, will pay all fixed







charges and expenses, leaving a large margin for safety, as shown above.

It is reasonable to expect, from a study of the situation and precedent, that the yearly number of passengers will in a few years reach, if not exceed, those of the elevated railroad system, because the bridge will be the means of speedily reaching a vast and beautiful section of country available for cheap and pleasant homes but not now available by reason of the inconvenient modes of transit.

The bridge will shorten the time for crossing the North River, as compared with the present ferries, from 15 to 45 minutes, so that of necessity a very large population will settle and grow up in the beautiful country along the lines of steam and electrical railroads in New Jersey, which will land the passengers directly in the heart of New York, from where they can quickly reach any desired point in the city. It is the one improvement of most pressing necessity for New York, and indeed of the country and there never was another great undertaking which from the start had such a promising and certain future.

## **Description of the North River Bridge at New York.**

The urgent demand for better facilities of communication across the deep Hudson River at New York led first to the attempt to tunnel it (over twenty years ago) but the difficulties, cost, and delays were so great, that work on the tunnel has been stopped, and there is at present no early prospect of its completion. It is now well understood, that a tunnel under the Hudson River might be made suitable for local transit, but it would afford no relief to the many railroads, terminating on the New Jersey shore opposite New York. The steep grades necessary for a tunnel, diving over 120 feet under the river; the heavy expense for maintenance in the form of pumping, lighting and ventilating; the slow speed to be imposed on trains for reasons of safety; the great risks from spring floods or from wrecks or derailments; the well known aversion of passengers to the chilly and smoky atmosphere and to the incessant and unavoidable roar; the vast expense of an adequate underground terminal station in New York, make a bridge by comparison beyond all doubt more agreeable and pref-



**NEW YORK AND SURROUNDINGS.**  
 SHOWING NORTH RIVER BRIDGE CONNECTING NEW YORK CITY AND NEW JERSEY.  
 AUTHORIZED BY CONGRESS 1890.



erable. If to this the fact be added, that an eight track bridge can now be built for less than one-half the cost of any tunnel arrangement, with corresponding facilities, it leaves the bridge as the only proper means for crossing the river.

The obstacles to the construction of a bridge seemed at first insurmountable. The only bridge thought of was one with piers in the river, requiring very deep foundations, from 250 to 300 feet to rock, and prohibitive in cost. Piers were also stoutly opposed by the navigation and commercial interests of the Port of New York, as greatly damaging the large and rapidly increasing commerce on this, the most magnificent and important river in the United States.

The North River Bridge Company was the first to realize that piers would not be permitted in the North River, and to meet the exigencies it proposed a bridge in one single span, and then provided fully worked out plans for the same, so as to show the feasibility and great economy of it over all other methods of providing an entrance into New York.

The importance of this enterprise, its benefits and far reaching consequences to New York and the country can hardly be overestimated.

The bridge, as now designed, will provide for a capacity of 14 tracks, of which, however, only 8 tracks and the promenade will at first be installed. The other 6 tracks will be added in the future as needed. Of the 8 tracks, 2 will be used for local electric cars, 2 tracks for suburban trains, 2 for express trains and 2 for freight trains. The capacity of all 8 tracks will be needed from the beginning to meet the vast traffic across the river.

The great economy of the structure can be shown by a comparison with a bridge of only 2 tracks; *i. e.*, the estimated cost of an 8 track bridge is 21,000,000 dollars, and of a double track bridge 9,000,000 dollars for construction alone. Four double track structures, if built singly, would therefore cost 36,000,000 dollars, or 15,000,000 dollars more than an 8 track bridge, capable of increase to 14 tracks in the future for an additional 2,500,000 dollars. It proves that the only proper way and the cheapest to secure an entrance into New York for the railroads is by such a bridge as proposed by the North River Bridge Company, and years of careful and painstaking study has settled it beyond a doubt.

The building of this great bridge will be relatively less difficult, than was the construction at the time, of either the East

River Bridge or the Forth Bridge, the two largest bridges now in existence. The manufacturing facilities for steel products have so much improved in recent years, that the cost will be only about one-half of what it would have been ten years ago. The time of building will be likewise much reduced, since with the aid of electric lights, many building operations can now be carried on at night equally as well as in day time, and then the whole work has been so designed as to come within the existing facilities of the Bridge Constructing Companies.

All the surveys have been made; the engineering plans are carefully worked out and on file at the War Department, Washington, which has approved them under date of Dec. 29, 1891.

On the New Jersey side, the approach will begin in the meadows between the Hackensack River and Bergen Hill. This latter ridge will be crossed in an open cut, 100 feet wide. The stone quarried from this cut, a very hard and durable gneiss and traprock, will be used for the concrete masonry of the towers and anchorages, which will be faced with cut granite.

No engineering project was ever more carefully studied and prepared before construction. Mere figures will not give an adequate impression of the gigantic work, but some idea can be had from the following comparison with other bridges.

	North River Bridge.	Brooklyn Suspen- sion Bridge.	Forth Cantilever Bridge.
Length including anchorages.	7,340'	3,700'	5,400'
Length of middle spans. Centre to centre of bearings.	3,100'	1,600'	1,710'
Number of tracks.	8	2 and 2 wagon roads.	2
Weight of superstructure per lineal foot, between towers.	30,000 lbs.	7,450 lbs.	12,700 lbs.
Total weight of steel and iron required, including towers and anchorages.	132,240 tons.	10,890 tons.	50,960 tons.
Cost of construction without right of way and interest account.	\$21,000,000	\$5,600,000	\$13,000,000
Cost per lineal foot of track.	<del>\$354</del>	\$805	\$1,200
Height of towers above water.	580'	272'	350'
Height of structure above water.	155'	135'	150'

The cost of the bridge liberally estimated and measured by the cost per lineal foot of track (which is the accepted standard for comparisons of cost) will therefore be lower, by more than one-



half, than that of the greatest existing steel bridge structure. It shows more clearly than anything else could, the great advance in scientific bridge designing, and the extraordinary cheapness reached in steel construction.

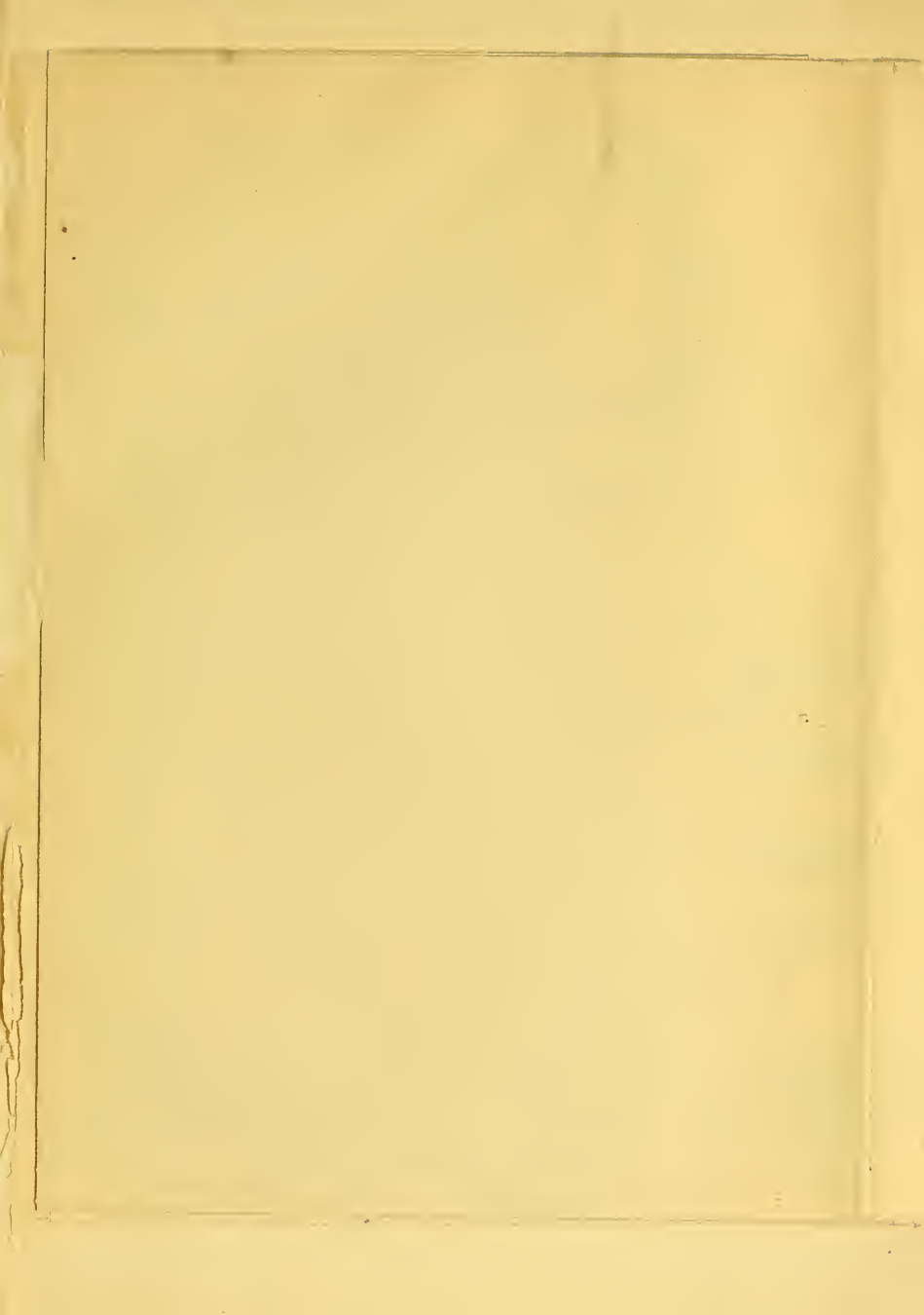
The North River bridge is not a suspension structure like the Brooklyn Bridge, but entirely different in its construction. It is of the nature of a braced arch; but instead of being erect and in compression, the arch is inverted or suspended from the towers and is in tension. The principle of bracing or rigidity is the same for both kinds of arches; both are very rigid and suitable for the heaviest trains and locomotives. There will be no restrictions to the working speed over the bridge which is to be the same as over a solid roadbed.

While in the Niagara Railroad Suspension Bridge and the Brooklyn Bridge the parallel steel wires are compacted into solid round cables wound or wrapped closely with wire on the outside, the corresponding cables in the North River Bridge will show a great improvement of construction. They will consist of wire loops, or eyebars made of steel wire, wound around flanged steel shoes, bored out to fit the big pins, which hold the links together as in a chain bridge. The web bracing between the upper and lower cables, forming the suspended arch, will be fastened to the same pins. The great advantage of this system is, that the wire links can be made to accurate length in the shop, and transported in finished form to the ground, the same as other steel parts of the bridge. No fitting or adjustment of them is required during erection which can therefore proceed *very rapidly*. The time required for erection will only be one-fourth of the time required for the Brooklyn Bridge cables, a very important item in the interest account during construction.

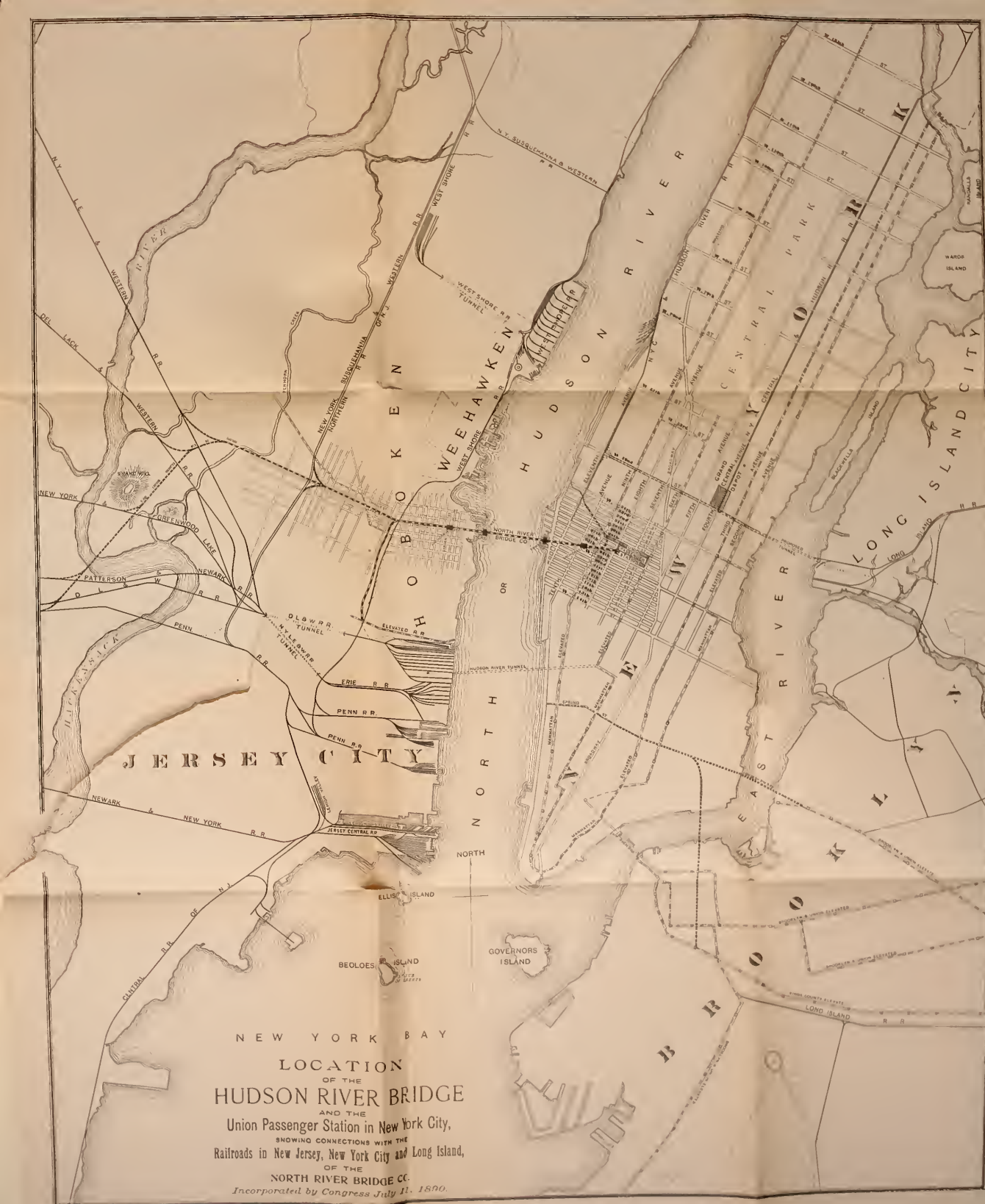
The chains of wire links will be covered with a water-tight mantle or envelope of sheet steel, leaving an air space all around for the purpose of protecting them against uneven heating by the sun and against the weather. The steel mantles will be removable for the inspection of the wire links, whenever needed, a great advantage for the protection against rusting.

The towers will be built of steel. The columns will be strongly braced together, to resist the strongest tornado, which would not affect the structure any more than it would a solid mountain.

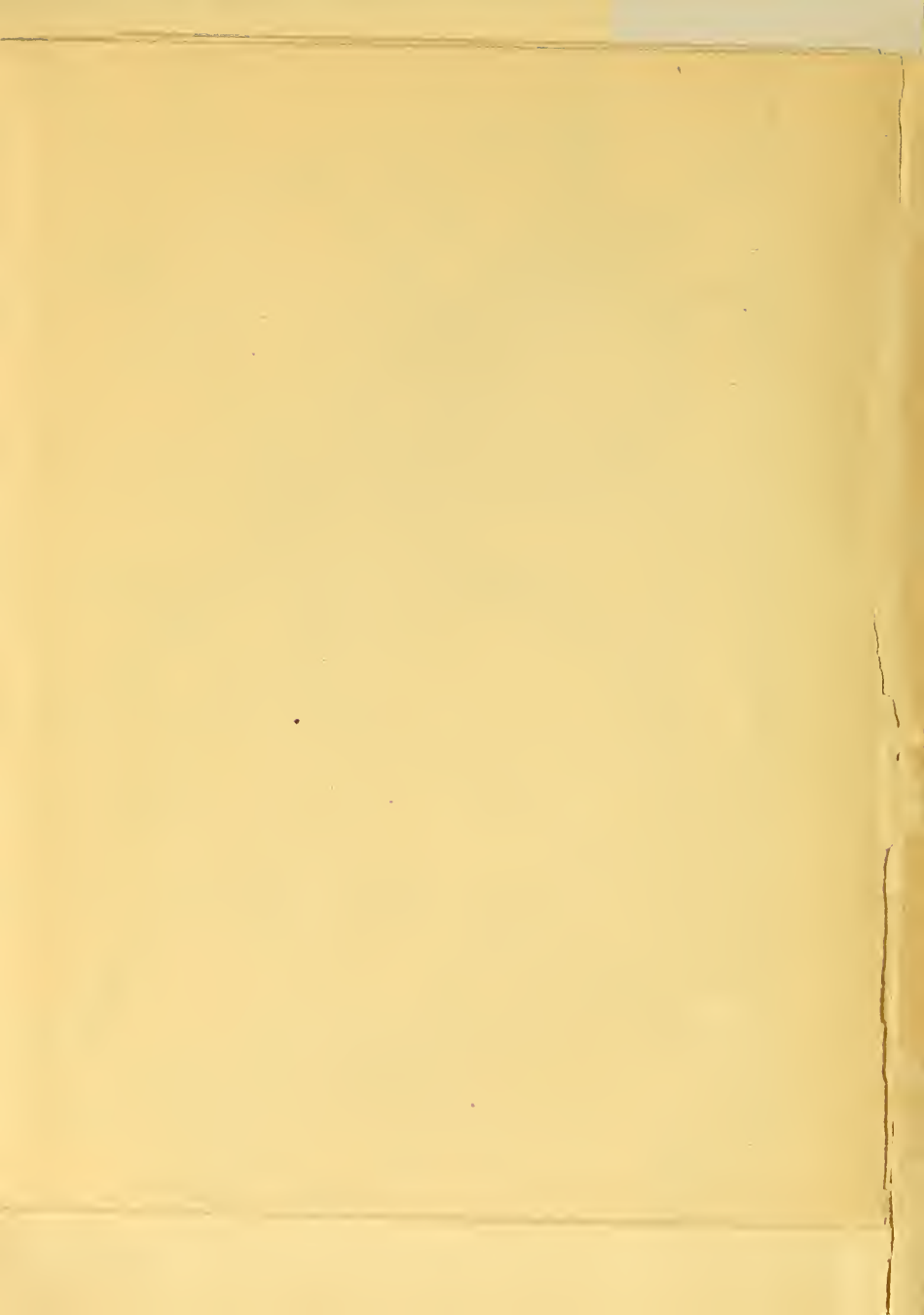
The architectural features of this great bridge will be very







NEW YORK BAY  
LOCATION  
OF THE  
HUDSON RIVER BRIDGE  
AND THE  
Union Passenger Station in New York City,  
SHOWING CONNECTIONS WITH THE  
Railroads in New Jersey, New York City and Long Island,  
OF THE  
NORTH RIVER BRIDGE CO.  
Incorporated by Congress July 11, 1890.



pleasing. The graceful curves of the suspended rigid arches, the simple and strong form of the towers, the large featured masses of the anchorages, will all combine to make the bridge grand and harmonious in all its parts, without artificial devices or ornamentation, illustrating the adage, that a scientifically and economically designed structure carries its own pleasing dignity and characteristic architecture.

## The Charter and Its Validity.

It is a matter of general knowledge, that charters, granted for large undertakings, like railroads, bridges, tunnels, or elevated roads in New York or vicinity, have nearly always been attacked in the courts as to their validity; resulting in injunctions, stopping the work of construction for long periods, pending final adjudication; and sometimes ending in decisions nullifying the granted powers. The loss of capital in this way has sometimes been great, and is always irrecoverable.

To avoid such risks and losses in the undertaking of the North River Bridge, the Company first determined that, in view of the great importance of the work and of the fact that the Bridge would be an inter-state structure that the power to build it should come from the United States Government itself and after careful consideration by Congress the charter was granted. The Company then made all possible haste to make certain of the validity of its charter through the courts. As the first preliminary thereto, it submitted its plans of location and of the bridge to the Secretary of War for his approval, in accordance with the provisions of the Act of Congress. After a series of public hearings, held in New York before the Board of U. S. Army Engineers, in the early part of the year 1891, the Secretary of War finally approved the plans and location, under date of December 29, 1891. Immediately thereafter, steps were taken by the Company to acquire property for the right of way in New Jersey by condemnation, and the resulting lawsuits furnished the occasion for testing the validity of the charter in the United States courts.

The Company, being a federal or national corporation, is subject to the direct jurisdiction of the United States. The case was first decided in the U. S. Circuit Court for the northern district of New Jersey, in Trenton, N. J., but was carried up on appeal



to the Supreme Court of the United States, which confirmed the decision of the lower court in favor of the Company, and also confirmed the constitutionality and validity of the Charter.

The United States Supreme Court being the highest court in the land, its decision is final and conclusive. Any attempts, therefore, to stop the work of construction by legal contests in the courts have been met in advance and cannot succeed. This is a very important preliminary in the construction of the work, which cannot now be interrupted and jeopardized by litigation. It is safe to say, that no other company or new work in this vicinity has been so safeguarded, or can give such evidence and assurance to investors.

Following is the decision of the Supreme Court of the United States in full:

## SUPREME COURT OF THE UNITED STATES.

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No. 1040.—OCTOBER TERM, 1893.

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Susan Luxton, Plaintiff in Error, )	In Error to the Circuit Court of the
<i>vs.</i>	United States for the District of
The North River Bridge Company. )	New Jersey.

This was a petition by the North River Bridge Company, incorporated by the act of Congress of July 11, 1890, c. 669 (the material part of which is copied in the margin,\*) for the appointment under that act

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\*AN act to incorporate the North River Bridge Company, and to authorize the construction of a bridge and approaches at New York City across the Hudson River, to regulate commerce in and over such bridge between the States of New York and New Jersey, and to establish such bridge a military and post road.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That authorization is hereby given to Jordan L. Mott, John King McLanahan, James Andrews, Thomas F. Ryan, Garrett A. Hobart, F. W. Roebling, Charles J. Canda, Edward F. C. Young, Henry Flad, Gustav Lindenthal, A. G. Dickinson, John H. Miller, William Brookfield, Samuel Rea, William F. Shunk Philip E. Chapin, and their associates, as a corporation as hereinafter provided, to locate build, maintain, equip and operate a bridge, proper approaches thereto, and terminals appurtenances and works connected therewith, across the Hudson River in and between the city of New York, in the State of New York, and the State of New Jersey, and to lay

of commissioners to assess damages for the appropriation and condemnation, for the approaches to its bridge across the Hudson or North River, between the States of New York and New Jersey, of land of Sarah Luxton in the city of Hoboken and the county of Hudson in the latter State. Upon the order of the Circuit Court, appointing commissioners, she sued out a writ of error, which was dismissed by this court at the last term, because that order was not a final judgment. 147 U. S. 337. The commissioners afterwards made an award and report, assessing her damages at the sum of \$2000, to the acceptance of which she objected,

tracks thereon for the connection of the railroads on either side of said river, in order to facilitate interstate commerce in the transportation of persons and property, and for vehicle, pedestrian, postal, military and other purposes: Provided, That said bridge shall have not less than six additional tracks, with a capacity for four additional tracks for future enlargement, and shall be constructed with a single span over the entire river between the towers, located between the shore and the established pier head lines in either State, and at an elevation above the river not less than that of the existing Brooklyn suspension bridge over the East River, and which elevation may be increased by the Secretary of War as hereinafter provided, and that no pier or other obstruction to navigation, either of a temporary or permanent character, shall be constructed in the river between said towers.

SEC. 2. That the construction of said bridge shall be commenced within three years after the passage of this act, and shall be completed within ten years after the commencement of construction. But that the Secretary of War is hereby authorized to extend the time for the commencement of construction for two additional years upon cause shown by the company, and provided that the Secretary of War shall deem such cause sufficient and satisfactory; and that, if the company fail to commence the construction of said bridge within the time so extended, this act shall be null and void. And the company, at least three months previous to commencing the erection of said bridge, shall submit to the Secretary of War a plan of the bridge, with a detailed map of the river at the proposed site of the bridge, and for the distance of one-half of a mile above and below the site, with such other information as the Secretary of War may require for a full and satisfactory understanding of the subject. And the Secretary of War may, upon receiving said plans and map and other information, order a hearing before a board of engineers, appointed by him for taking testimony of persons interested in railroads and navigation, relative to the clear height of the superstructure above ordinary high water. Such clear height shall not be less than that named in section one of this act, and the Secretary of War may thereupon order such additional clear height as he shall deem necessary for the security of navigation. And he is hereby authorized and directed, upon being satisfied that a bridge built on such plan and at said locality will conform to the conditions of this act, to notify the said company that he approves the plans therefor; whereupon said company may proceed to the erection of said bridge. But until the Secretary of War approve the plan and location of said bridge the erection of the same shall not be commenced; and should any change be made in the plan of the bridge during the progress of the work thereon, such change shall likewise be subject to the approval of the Secretary of War.

SEC. 3. That the bridge, with its approaches and railroad thereover, constructed under the provisions of this act, shall be a lawful structure, and a military and post road, but no toll charges shall be made for the transmission over the same of the mails of the United States, or for the right of way for the United States postal telegraph purposes.

upon the ground that the act of Congress was unconstitutional, and particularly that Congress could not confer the right of eminent domain upon the company. But the court overruled the objection, and adjudged that the award be approved and confirmed, and remain of record in the office of its clerk; and that, upon payment or tender of the sum awarded, the company might enter upon and take possession of the land for the purpose for which it was condemned. She thereupon sued out this writ of error.

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SEC. 4. That for the purpose of carrying into effect the objects stated in this act, the persons named in the first section hereof, and their associates, are hereby constituted and created a body corporate in law, to be known as the North River Bridge Company, and by that name, style and title shall have perpetual succession; may sue and be sued, implead and be impleaded, complain and defend in all courts of law and equity, of record and otherwise; may make and have a common seal, and shall have and possess all the rights, powers, franchises and privileges incident to or usually possessed by such companies. It may receive, purchase, and also acquire by lawful appropriation and condemnation, upon making proper compensation therefor, to be ascertained according to the laws of the State within which the same is located, real and personal property and rights of property, and may mortgage, encumber, charge, pledge, grant, lease, sell, assign and convey the same. And to aid in the construction of said bridge and approaches thereto, and railroad terminals, appurtenances and works connected therewith, and to carry out the purposes of this act, the said North River Bridge Company is hereby authorized to issue its bonds, and secure the same by mortgage on its property and rights of property, of all kinds and descriptions, and its franchise to be a corporation. And generally and specially for the fully carrying out of the purposes and intentions of this act, the said North River Bridge Company, and its successors, shall have and possess all such rights and powers to enter upon lands, and for the purchase, acquisition, condemnation, appropriation, occupation, possession and use of real estate and other property, and for the location, construction, operation and maintenance of said bridge with its approaches, terminals and appurtenances, as are possessed by railroad or bridge companies in the States of New York and New Jersey, respectively. That all persons, railroad and telegraph companies, respectively, desiring to use said bridge, shall have and be entitled to equal rights and privileges in the passage over and use of the same, and the approaches thereto, for a reasonable compensation, to be approved by the Interstate Commerce Commission as hereinafter determined, and to be paid to the North River Bridge Company, which is hereby duly empowered to collect the same. And sufficient trackage and terminal facilities shall be provided for all railroads desiring to use said bridge and appurtenances. In case any litigation arises out of the construction, use or operation of said bridge or approaches thereto and railroad thereon, or for the condemnation or the appropriation of property in connection therewith under this act, the cause so arising shall be heard and tried before the Circuit Court of the United States for the judicial district in which the bridge or one of the approaches is located. Applications for condemnation or appropriation of property shall be made in the Circuit Court of the United States for the district in which such property is situated, upon the petition of said company; and the hearing and trial of all other proceedings thereon shall conform as nearly as may be to the practice in the courts of the State, in which such district is situated, in the case of condemnation or appropriation of property for railroads. 26 Stat. 268-270.

[May 14, 1894.]

MR. JUSTICE GRAY, after stating the case, delivered the opinion of the Court.

The validity of the act of Congress incorporating the North River Bridge Company rests upon principles of constitutional law, now established beyond dispute.

The Congress of the United States, being empowered by the Constitution to regulate commerce among the several States, and to pass all laws necessary or proper for carrying into execution any of the powers specifically conferred, may make use of any appropriate means for this end. As said by Chief Justice Marshall, "The power of creating a corporation, though appertaining to sovereignty, is not, like the power of making war, or levying taxes, or of regulating commerce, a great substantive and independent power, which cannot be implied as incidental to other powers, or used as a means of executing them. It is never the end for which other powers are exercised, but a means by which other objects are accomplished." Congress, therefore, may create corporations as appropriate means of executing the powers of government, as, for instance, a bank for the purpose of carrying on the fiscal operations of the United States, or a railroad corporation for the purpose of promoting commerce among the States. *McCulloch v. Maryland*, 4 Wheat. 316, 411, 422; *Osborn v. Bank of the United States*, 9 Wheat. 738, 861, 873; *Pacific Railroad Removal Cases*, 115 U. S. 1, 18; *California v. Pacific Railroad*, 127 U. S. 1, 39. Congress has likewise the power, exercised early in this century by successive acts in the case of the Cumberland or National Road from the Potomac across the Alleghenies to the Ohio, to authorize the construction of a public highway connecting several States. See *Indiana v. United States*, 148 U. S. 148. And whenever it becomes necessary, for the accomplishment of any object within the authority of Congress, to exercise the right of eminent domain and take private lands, making just compensation to the owners, Congress may do this with or without a concurrent act of the State in which the lands lie. *Van Brocklin v. Tennessee*, 117 U. S. 151, 154, and cases cited; *Cherokee Nation v. Kansas Railway*, 135 U. S. 641, 656.

From these premises, the conclusion appears to be inevitable that, although Congress may, if it sees fit and as it has often done, recognize and approve bridges erected by authority of two States across navigable waters between them, it may, at its discretion, use its sovereign powers, directly or through a corporation created for that object, to construct bridges for the accommodation of interstate commerce by land, as it undoubtedly may to improve the navigation of rivers for the convenience of

interstate commerce by water. 1 Hare's Constitutional Law, 248, 249. See acts of July, 14, 1862, c. 167; 12 Stat. 569; February 17, 1865, c. 38; 13 Stat. 431; July 25, 1866, c. 246; 14 Stat. 244; March 3, 1871, c. 121, § 5; 16 Stat. 572, 573; June 16, 1886, c. 417; 24 Stat. 78.

The judicial opinions cited in support of the opposite view are not, having regard to the facts of the cases in which they were uttered, of controlling weight.

Mr. Justice McLean, indeed, in an opinion delivered by him in the Circuit Court, by which a bill by the United States to restrain the construction of a bridge across the Mississippi River was dismissed, no injury to property of the United States and no substantial obstruction to navigation being shown, and there having been no legislation by Congress upon the subject, took occasion to remark that "neither under the commercial power, nor under the power to establish post roads, can Congress construct a bridge over a navigable water"; that "if Congress can construct a bridge over a navigable water, under the power to regulate commerce or to establish post roads, on the same principle it may make turnpike or railroads throughout the entire country"; and that "the latter power has generally been considered as exhausted in the designation of roads on which the mails are to be transported; and the former by the regulation of commerce upon the high seas and upon our rivers and lakes." *United States v. Railroad Bridge Co.*, 6 McLean, 517, 524, 525.

The same learned justice repeated and enlarged upon that idea in his dissenting opinion in *Pennsylvania v. Wheeling Bridge*, 18 How. 421, 442, 443, where, after the Wheeling Bridge, constructed across the Ohio River under an act of the State of Virginia, had by a decree of this court, at the suit of the State of Pennsylvania, been declared to be in its then condition an unlawful obstruction of the navigation of the river, and in conflict with the acts of Congress regulating such navigation, and therefore ordered to be elevated or abated, Congress passed an act, declaring the bridge to be a lawful structure in its then position and elevation, establishing it as a post road for the passage of the mails of the United States, authorizing the corporation to have and maintain the bridge at that site and elevation, and requiring the captains and crews of all vessels and boats navigating the river to regulate the use thereof, and of any pipes or chimneys belonging thereto, so as not to interfere with the elevation and construction of the bridge. Act of August 31, 1852, c. 111, §§ 6, 7; 10 Stat. 112.

But the majority of this court in that case held that "the act of Congress afforded full authority to the defendants to reconstruct the bridge." 18 How. 436. Mr. Justice Nelson, in delivering its opinion, said: "We do not enter upon the question, whether or not Congress possess the

power, under the authority in the Constitution to establish post offices and post roads, to legalize this bridge ; for, conceding that no such powers can be derived from this clause, it must be admitted that it is, at least, necessarily included in the power conferred to regulate commerce among the several States. The regulation of commerce includes intercourse and navigation, and, of course, the power to determine what shall or shall not be deemed in judgment of law an obstruction to navigation ; and that power, as we have seen, has been exercised consistently with the continuance of the bridge." 18 How. 431. And Mr. Justice Daniel, in a concurring opinion, sustaining the validity of the act of Congress, said : " They have regulated this matter upon a scale by them conceived to be just and impartial, with reference to that commerce which pursues the course of the river, and to that which traverses its channel, and is broadly diffused through the country. They have at the same time, by what they have done, secured to the government, and to the public at large, the essential advantage of a safe and certain transit over the Ohio." 18 How. 458. A similar decision was made in *The Clinton Bridge*, 10 Wall. 454. See also *Miller v. New York*, 109 U. S. 385.

In the cases, cited at the bar, of *The Passaic Bridges*, 3 Wall, appx. 782, decided by Mr. Justice Grier in the Circuit Court, and of *Gilman v. Philadelphia*, 3 Wall. 713, and *Wright v. Nagle*, 101 U. S. 791, in this court, the bridge in question had been erected under authority of a State and was wholly within the State, and no question arose, or was considered, as to the power of Congress, in regulating interstate commerce, to authorize the erection of bridges between two States.

But in *Stockton v. Baltimore & New York Railroad*, 32 Fed. Rep. 9, Mr. Justice Bradley, sitting in the Circuit Court, upheld the constitutionality of the act of Congress of June 16, 1886. c. 417, authorizing a corporation of New York and one of New Jersey to build and maintain a bridge, as therein directed, across the Staten Island Sound or Arthur Kill. 24 Stat. 78.

The reasons upon which the decision in that case rested were, in substance, the same as were stated by that eminent judge in two opinions afterwards delivered by him in behalf of this court, in which the power of Congress, by its own legislation, to confer original authority to erect bridges over navigable waters, whenever Congress considers it necessary to do so to meet the demands of interstate commerce by land, is so clearly demonstrated, as to render further discussion of the subject superfluous.

In *Willamette Bridge v. Hatch*, 125 U. S. 1, in which it was held that section 2 of the act of February 14, 1859, c. 33, (11 Stat. 383) for the admission of Oregon into the Union, providing that " all the navigable waters of the said State shall be common highways, and forever free, as well to the inhabitants of said State as to all other citizens of the United States,"



did not prevent the State, in the absence of legislation by Congress, from authorizing the erection of a bridge over such a river, Mr. Justice Bradley, speaking for the whole court, said: "And although, until Congress acts, the States have the plenary power supposed, yet, when Congress chooses to act, it is not concluded by anything that the States, or that individuals by its authority or acquiescence, have done, from assuming entire control of the matter, and abating any erections that may have been made, and preventing any others from being made, except in conformity with such regulations as it may impose. It is for this reason, namely, the ultimate (though yet unexercised) power of Congress over the whole subject-matter, that the consent of Congress is so frequently asked to the erection of bridges over navigable streams. It might itself give original authority for the erection of such bridges, when called for by the demands of interstate commerce by land; but, in many, perhaps the majority of cases, its assent only is asked, and the primary authority is sought at the hands of the State." 125 U. S. 12, 13.

In *California v. Pacific Railroad*, 127 U. S. 1, it was directly adjudged that Congress has authority, in the exercise of its power to regulate commerce among the several States, to authorize corporations to construct railroads across the States, as well as the Territories of the United States; and Mr. Justice Bradley, again speaking for the court, and referring to the acts of Congress establishing corporations to build railroads across the continent, said: "It cannot at the present day be doubted that Congress, under the power to regulate commerce among the several States, as well as to provide for postal accommodations and military exigencies, had authority to pass these laws. The power to construct, or to authorize individuals or corporations to construct, national highways and bridges from State to State, is essential to the complete control and regulation of interstate commerce. Without authority in Congress to establish and maintain such highways and bridges, it would be without authority to regulate one of the most important adjuncts of commerce. This power in former times were exerted to a very limited extent, the Cumberland or National road being the most notable instance. Its exertion was but little called for, as commerce was then mostly conducted by water, and many of our statesmen entertained doubts as to the existence of the power to establish ways of communication by land. But since, in consequence of the expansion of the country, the multiplication of its products, and the invention of railroads and locomotion by steam, land transportation has so vastly increased, a sounder consideration of the subject has prevailed, and led to the conclusion that Congress has plenary power over the whole subject. Of course, the authority of Congress over the Territories of the United States, and its power to grant franchises exercisable

therein, are, and ever have been, undoubted. But the wider power was very freely exercised, and much to the general satisfaction, in the creation of the vast system of railroads connecting the East with the Pacific, traversing States as well as Territories, and employing the agency of State as well as Federal corporations." 127 U. S. 39, 40.

The act of Congress now in question declares the construction of the North River Bridge between the States of New York and New Jersey to be "in order to facilitate interstate commerce"; and it makes due provision for the condemnation of lands for the construction and maintenance of the bridge and its approaches, and for just compensation to the owners, which has been accordingly awarded to the plaintiff in error.

In the light of the foregoing principles and authorities, the objection made to the constitutionality of this act cannot be sustained.

*Judgment affirmed.*

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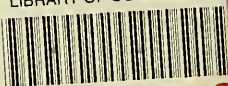
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